

TECHNICAL MEMORANDUM



Date: October 9, 2020
To: Meredith Penny, Island County
From: Sam Payne and Dan Nickel, The Watershed Company
Project Name: Island County SMP Update
Project Number: 190534

Subject: Shoreline Jurisdiction Mapping Update Narrative Memo

This memo provides a narrative for the Island County (County) Shoreline Master Program (SMP) shoreline jurisdiction mapping update to describe proposed map changes. As part of the County's SMP periodic update, The Watershed Company was contracted to review 38 sites where there is uncertainty in the shoreline jurisdiction boundary. This memo is supplemental to the GIS data and mapping update which is included in the deliverables package. The purpose of this memo is to provide additional information and rationale supporting proposed changes in the GIS mapping layer.

Shoreline Jurisdiction Determinations

The Watershed Company staff, Sam Payne and Mike Thai, conducted field investigation in June 2020. Evaluation of shoreline jurisdiction was based on methods described in the Department of Ecology manual: *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson 2016), the Department of Ecology SMP Handbook: *Chapter 5 Shoreline Jurisdiction* (Ecology 2017), WAC 173-22-030, and the Island County SMP.

For the purpose of this report the term “jurisdictional shoreline waterbody” refers to an area that is within the limits of the ordinary high water mark (OHWM) of a Shoreline of the State, and “shoreline associated wetlands” refer to wetlands that are either located within 200 feet of or hydrologically associated with a jurisdictional waterbody.

All site findings are briefly summarized in Table 1 below with detailed descriptions provided in the following section that includes background information and imagery. Where applicable, the approximate location of each site is indicated with a blue arrow and OHWM by a yellow line.

Table 1. Summary table of the project sites, jurisdictional status, and notes.

Site #	General Location	Findings of Jurisdiction Status	Notes and Recommendations
1	North Whidbey – Cranberry Lake	Wetland is shoreline associated	Currently mapped as shoreline associated wetland, no change proposed to the shoreline jurisdiction map
2	North Whidbey – Dugualla Bay	Lagoon is a jurisdictional shoreline waterbody	Waterbody is tidally influenced and saltwater, recommend adjusting shoreline jurisdiction map to indicate as a jurisdictional shoreline waterbody
3	North Whidbey – Penn Cove	Wetlands within 200 feet of OHWM are shoreline associated	Site not tidally influenced or a saltwater wetland but within 200 feet of shoreline jurisdiction; recommend adjusting shoreline jurisdiction map to remove non-wetland areas
4	North Whidbey – Penn Cove	Feature is a jurisdictional shoreline waterbody	Site includes salt marsh and is tidally influenced; recommend adjusting shoreline jurisdiction map to include feature as a jurisdictional shoreline waterbody
5	Central Whidbey – Crockett Lake	No wetlands identified in the area of question; shoreline jurisdiction extends 200 feet from OHWM of Crockett Lake	No wetlands identified; no change to shoreline jurisdiction map recommended
6, 7, and 8	Central Whidbey – Crockett Lake and Wanamaker Rd	Wetland is a jurisdictional shoreline waterbody	Wetland is tidally influenced and saltwater, recommend adjusting shoreline jurisdiction map to indicate as a jurisdictional shoreline waterbody
9	South Whidbey – Useless Bay	Wetland transitions from jurisdictional shoreline waterbody to	Wetland transitions from tidally influenced and saltwater to freshwater; recommend adjusting eastern extent of shoreline jurisdiction map to update of

Site #	General Location	Findings of Jurisdiction Status	Notes and Recommendations
		shoreline associated wetland	jurisdictional status and location of shoreline OHWM
10 and 11	North Camano – Skagit Bay	Wetlands are not jurisdictional shoreline waterbodies or associated wetlands	Wetlands are >200 feet from OHWM of jurisdictional shoreline waterbodies and are not tidally influenced or saltwater; no change to shoreline jurisdiction map recommended
12 and 13	North Camano – Skagit Bay	Undetermined; feature is likely jurisdictional shoreline	On private property, active channel appears to be tidally influenced based on aerial imagery; recommend adjusting the wetlands east of the berm to be part of the jurisdictional shoreline waterbody.
14 and 15	North Camano – Livingston Bay	Wetlands are not jurisdictional shoreline waterbodies or associated wetlands	The wetland features are >200 feet from the jurisdictional shoreline waterbody and appear to be connected through ditch channels. Therefore, we recommend revising the shoreline jurisdiction map to remove upland wetlands from shoreline jurisdiction as they are not likely associated.
16	Central Whidbey – Lake Hancock	Wetlands are shoreline associated	Wetlands are connected and appear to continue south further than currently mapped; no change to shoreline jurisdiction map recommended until wetland extent can be field verified
17	Central Whidbey – Smugglers Cove Rd	Lagoon is a jurisdictional shoreline waterbody	We recommend adjusting shoreline jurisdiction map to update the feature as a jurisdictional shoreline waterbody
18	South Whidbey – Mutiny Bay	Wetland is shoreline associated	Wetland has detectable but low salinity and may be connected hydrologically to the Puget Sound either through groundwater or tide gate; no change recommended for wetland areas, however, a mapping error should be

Site #	General Location	Findings of Jurisdiction Status	Notes and Recommendations
			corrected to indicate a mislabeled section in the Puget Sound is Aquatic
19	South Whidbey – Useless Bay	Site is upland of jurisdictional shoreline waterbody with no evident wetlands or waterbodies	Review based on potential mapping error; no change to shoreline jurisdiction map is recommended
20	South Whidbey – Useless Bay	Undetermined; likely shoreline associated wetland but not jurisdictional shoreline waterbody	On private property, vegetation typical of both freshwater and low-salinity brackish water; no change to shoreline jurisdiction map is recommended until field verified, if necessary
21	South Whidbey – Useless Bay	Undetermined, wetlands are likely shoreline associated	No change proposed to shoreline jurisdiction map until field verified, if necessary
22	South Whidbey – Maxwellton	Wetlands are shoreline associated. Portions of the area may be considered a jurisdictional shoreline waterbody	No changes are proposed to the shoreline jurisdiction map, further field investigation is necessary to confirm whether there are jurisdictional shorelines present, but extent of associated wetland likely exceeds the boundary of 200 feet from the OHWM
23	South Whidbey – Cultus Bay	Undetermined, likely jurisdictional shoreline waterbody	On private property with tide gate, salt tolerant plants observed in vicinity; no changes are proposed to the shoreline jurisdiction map until site conditions can be confirmed; however, extent of freshwater wetlands likely exceeds the 200-foot shoreline jurisdiction boundary beyond the OHWM
24	North Whidbey – Dugualla Bay	Wetlands are shoreline associated	We recommend adjusting the shoreline jurisdiction map to include wetlands as shoreline associated

Site #	General Location	Findings of Jurisdiction Status	Notes and Recommendations
25 and 26	Central Whidbey – Rhodena Dr.	Jurisdiction not determined; features are likely jurisdictional shoreline waterbodies	On private property, tidal influence evident from logs visible in aerial imagery, additional investigation is required; No change proposed to shoreline jurisdiction map until field verified
27	Central Whidbey – Race Rd.	Wetlands within 200 feet or Puget Sound are shoreline associated	Wetlands and ditches in field are freshwater may be associated if within 200 feet; recommend adjusting shoreline jurisdiction map to reduce area of shoreline associated wetlands
28	Central Whidbey – Coddington Rd	Property does not appear to contain a jurisdictional shoreline waterbody or associated wetland	Recommend adjusting shoreline jurisdiction map to reduce area of shoreline associated wetlands
29 and 30	Central Whidbey – Surfside Ln	Lagoon is a jurisdictional shoreline waterbody	Recommend adjusting map to update feature status to jurisdictional shoreline waterbody
31 and 36	Central Camano (east)	Lagoon is a jurisdictional shoreline waterbody	Waterbody is tidally influenced and saltwater; recommend adjusting map to update feature status to jurisdictional shoreline waterbody
32	North Camano – Livingston Bay	Feature is a jurisdictional shoreline waterbody	Recommend adjusting the shoreline jurisdiction map to update feature status to a jurisdictional shoreline waterbody
33	North Camano – Davis Slough	Wetlands are shoreline associated	No surface water connection to shorelines although channel behind dike is saltwater, no change to the shoreline jurisdiction map is proposed
34	Central Camano (west)	Wetland is a jurisdictional shoreline waterbody	We recommend shoreline mapping be updated to depict the feature as a jurisdictional shoreline waterbody

Site #	General Location	Findings of Jurisdiction Status	Notes and Recommendations
35	South Camano	Feature is a jurisdictional shoreline waterbody	We recommend the shoreline jurisdiction map be updated to depict the feature as a jurisdictional shoreline waterbody
37	North Camano – Triangle Cove	Wetland is a shoreline associated wetland	No surface water connection to shorelines although channel behind dike is likely saltwater, no change to the shoreline jurisdiction map proposed
38	North Camano – Triangle Cove	Wetlands are shoreline associated	Wetlands may continue further than currently mapped but field investigation would be required to confirm; no change to shoreline jurisdiction map proposed until field verified

Site 1

Assessment of the extent of shoreline jurisdiction and associated wetlands was initiated due to uncertainty regarding whether the area in question was a shoreline associated wetland connected to Cranberry Lake. Based on a review of aerial photography, this site has been determined to be accurately mapped as a shoreline associated wetland. No site visit was conducted since a review of aerial imagery was sufficient to confirm a direct connection between the wetland and Cranberry Lake, a shoreline waterbody.

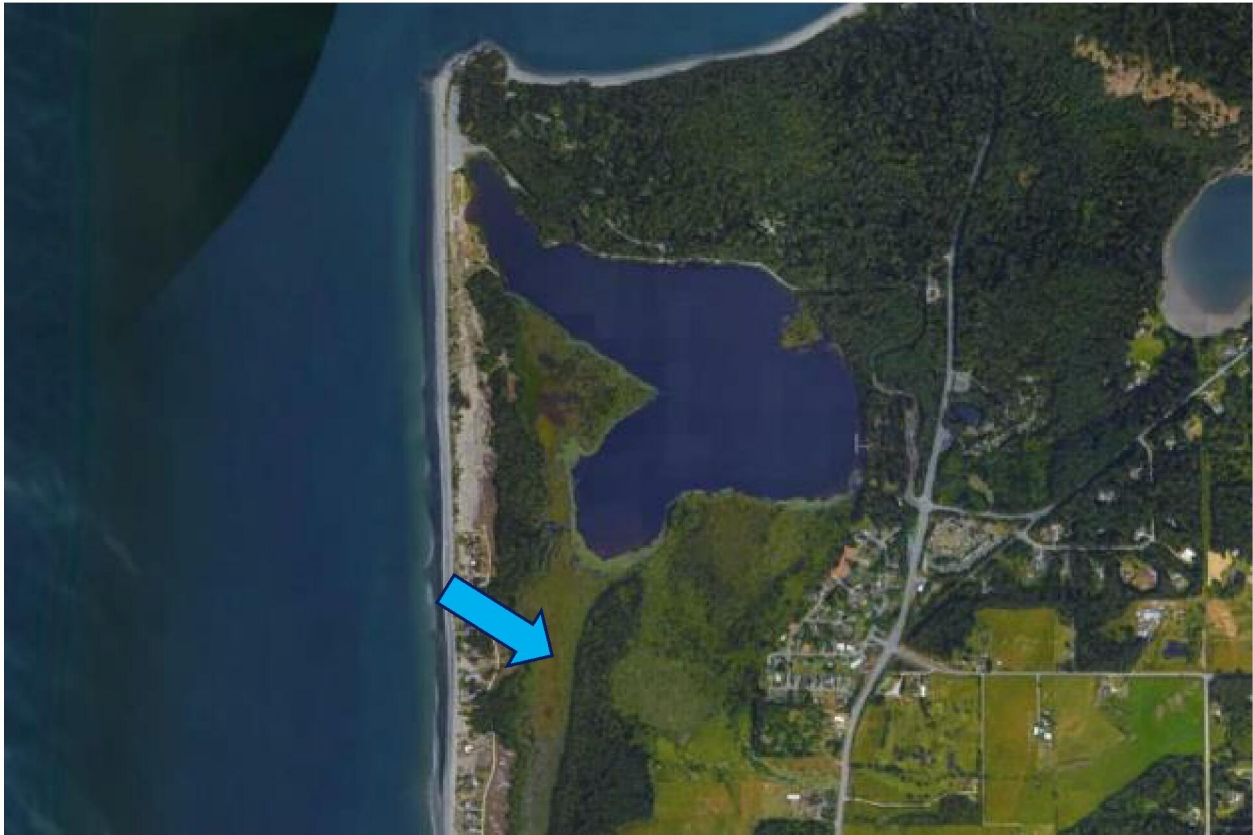


Figure 1. Site 1, Cranberry Lake and associated wetlands (photo source: Google Earth).

Site 2

This waterbody is a coastal lagoon determined to be a jurisdictional shoreline waterbody. A site visit was conducted to verify this determination. The lagoon is separated from the Puget Sound by a row of houses, and a tide gate is inventoried which connects the two waterbodies. The tide gate is located on private property and could not be visually assessed, however, a salinity reading of 20.0 ppt confirms tidal influence in the lagoon. Other indicators of saltwater influence include salt burn on overhanging vegetation and salt tolerant plants in the vegetated fringe. A tidal channel resulting from outflow through the tide gate is visible on aerial imagery. We recommend updating the shoreline jurisdiction map to indicate the status as a jurisdictional shoreline waterbody and extend shoreline jurisdiction 200 feet from OHWM of the feature.



Figure 2. Site 2, tidal gate at red point (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 3

Wetlands and ditches north of SR-20 were determined not to be jurisdictional shoreline waterbodies but are associated wetlands due to proximity to the Puget Sound. A site visit was conducted to verify this determination. Fields north of SR-20 are generally non-wetland and are located on a slope well above the Puget Sound OHWM elevation. A wetland and a ditch/stream were identified within a linear vegetated corridor which contained freshwater vegetation including *Salix* sp., *Stachys cooleyae*, and *Juncus effusus*. It is possible but not confirmed that other vegetated corridors contain drainage features or wetlands. The site is located on private property so the investigation was limited to visual inspection from the nearest accessible public land. We recommend altering shoreline jurisdiction mapping to exclude the fields, but include the wetland which extends through the vegetated corridor as a shoreline associated wetland.



Figure 3. Site 3, north of SR-20 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 4

This site contains a salt marsh that is a jurisdictional shoreline waterbody. A site visit was conducted to verify this determination. The salt marsh meets wetland criteria and is vegetated with primarily *Salicornia pacifica* and *Atriplex* sp. Extensive log piles have accumulated from storm surges, while recent deposition of drift deposits and wrack is evident in the interior of the salt marsh. We recommend updating the shoreline jurisdiction map to include the feature as a jurisdictional shoreline waterbody.



Figure 4. Site 4, south of W Scenic Heights Rd (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 5

No wetlands were observed west of S Engle Road. A site visit was conducted to verify this determination. This area is located on a hillslope significantly higher in elevation than the OHWM opposite of S Engle Rd, and is developed with historic military infrastructure associated with Fort Casey. Inspection is limited to a brief walkthrough and not intended to be a comprehensive wetland reconnaissance or delineation study. Screening was not conducted in the interior of forests where visibility was blocked by dense understory vegetation. No change to the shoreline jurisdiction map is proposed.



Figure 5. Site 5, no wetlands identified west of S Engle Rd (photo source: Google Earth). Approximate OHWM represented by yellow line.

Site 6, 7, and 8

The entire wetland located at site 6, 7, and 8 is a jurisdictional shoreline waterbody. A site visit was conducted to verify this determination. Salinity measurements were recorded with a maximum of 11.5 ppt, and greater in the western compared to the eastern wetland area.

Vegetation to the west near Wanamaker Rd was very salt tolerant and includes *Salicornia pacifica* and *Distichlis spicata*. Vegetation on the east side of the wetland is also salt tolerant including *Distichlis spicata* and *Bolboschoenus maritimus*. The pond located to the southeast of the wetland measured a salinity of 1.2 ppt and was vegetated with salt tolerant vegetation including *Distichlis spicata* and *Schoenoplectus* sp. Inspection did not include the northeast boundary, but based on extrapolation of the sample obtained at select locations, the entire wetland is a jurisdictional shoreline waterbody. We recommend adjusting the shoreline jurisdiction map to update the jurisdictional status.



Figure 6. Site 6-8 (photo source: Google Earth). Approximate edge of jurisdictional shoreline waterbodies in yellow line.

Site 9

This site contains a large brackish wetland that transitions from saline to freshwater with a tide gate connecting to the Puget Sound. A site visit was conducted to verify this determination. The transition from jurisdictional shoreline waterbody to associated wetland is located along the gradient at some point within the wetland and additional study would be required to confirm the exact location. Beyond the jurisdictional shoreline boundary, the remaining wetland would be classified as associated wetland. Salinity was measured in the southwest corner at 0.1 ppt, in an area vegetated with *Phalaris arundinacea*, *Typha latifolia*, and *Lemna* sp. Salinity was measured at 5.7 ppt near the tide gate, in an area vegetated with *Schoenoplectus* sp., *Typha latifolia*, *Juncus* sp., and *Potentilla* sp. We recommend adjusting the shoreline boundary to more accurately reflect site conditions and change the jurisdictional status to a jurisdictional shoreline waterbody in the eastern extent of the site. The extent of saltwater influence likely extends further west than indicated in Figure 7, however, additional field verification and wetland delineation would be required to confirm.



Figure 7. Site 9, tide gate at red dot (photo source: Google Earth). Approximate edge of jurisdictional shoreline waterbodies in yellow line.

Site 10 and 11

Wetlands at this site are not jurisdictional or associated. A site visit was conducted to verify this determination. Although wetlands are on private property and access is limited, portions are viewable from Gerdes Rd and Utsalady Rd. Aerial photography indicates that wetlands have been historically ditched. Where a ditch intersects with Gerdes Rd, vegetation was freshwater; including *Rubus spectabilis*, *Alnus rubra*, *Rosa nootkana*, and *Equisetum telmateia*. *Phalaris arundinacea* was observed from a distance in the fields. No culvert was observed, although it is likely that wetlands are piped downhill into the Puget Sound. Aerial measurements indicate that wetlands are greater than 200 feet from the Puget Sound OHWM. No change to the shoreline jurisdiction map is recommended.



Figure 8. Site 10-11 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 12 and 13

This site is located on private property and is not accessible or viewable from public lands. A site visit was conducted to verify this determination, however, the subject wetlands are not viewable from any public roads or vantages. Aerial photography indicates the presence of a channel in wetlands behind a berm/dike. Considering the absence of an upslope inventoried stream, the channel is likely tidally influenced. Additional investigation would be required to determine the extent of wetlands and the extent of saltwater influence. East of the berm, tidal channels and associated saltmarsh are strong evidence that it is tidally influenced. We recommend adjusting the shoreline jurisdiction map to include wetlands east of the berm as a jurisdictional shoreline waterbody.

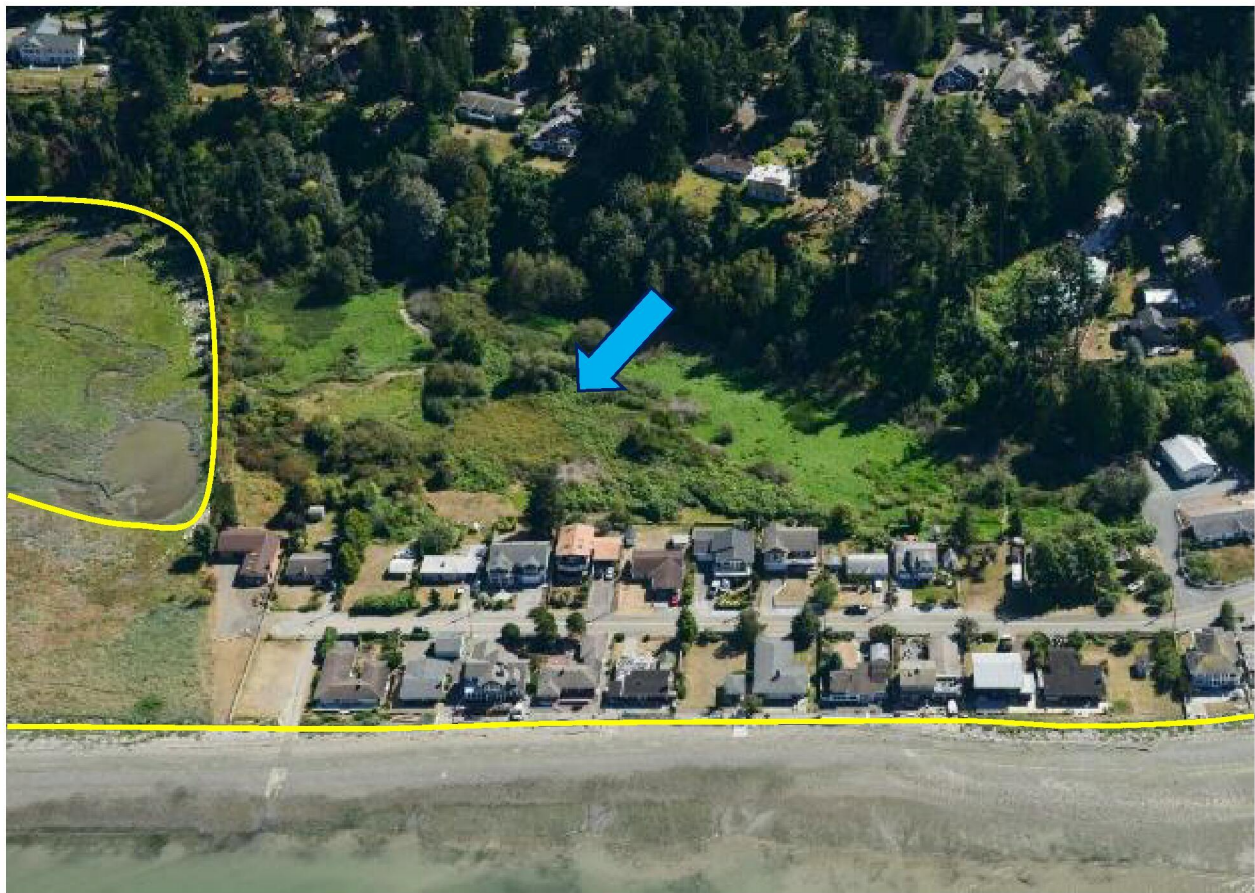


Figure 9. Site 12-13 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 14 and 15

This site is located on private property and the wetland outlet is not accessible or viewable from public lands. A site visit was conducted to verify this determination, however, the portions of wetlands and their connection to the Puget Sound that are critical to a jurisdictional determination are not visible from public property. Wetlands are well above the elevation of OHWM and are not saltwater influenced. The northern extent of wetlands are viewable from public roads although plant identification in wetlands was not feasible from that distance, with the exception of *Phalaris arundinacea*. Ditches observable on aerial imagery appear to drain wetlands to the southwest and southeast, eventually discharging into the Puget Sound. Wetlands appear to be greater than 200 feet from the Puget Sound OHWM, and a ditched connection is not sufficient to include them as shoreline associated wetlands. Additional on-site inspection would be needed to verify with certainty. We recommend removing the upland extent of associated wetland on Site 15 and not including Site 14 from the shoreline jurisdiction map.



Figure 10. Site 14-15 (photo source: Google Earth). Approximate OHWM represented by yellow line.

Site 16

Based on a review of aerial photography and hill shade layers, associated wetlands at the site may extend further south than existing mapping. No site visit was made due to the low number of parcels affected and lack of public access to wetland locations. No change is proposed until field verified, if necessary.

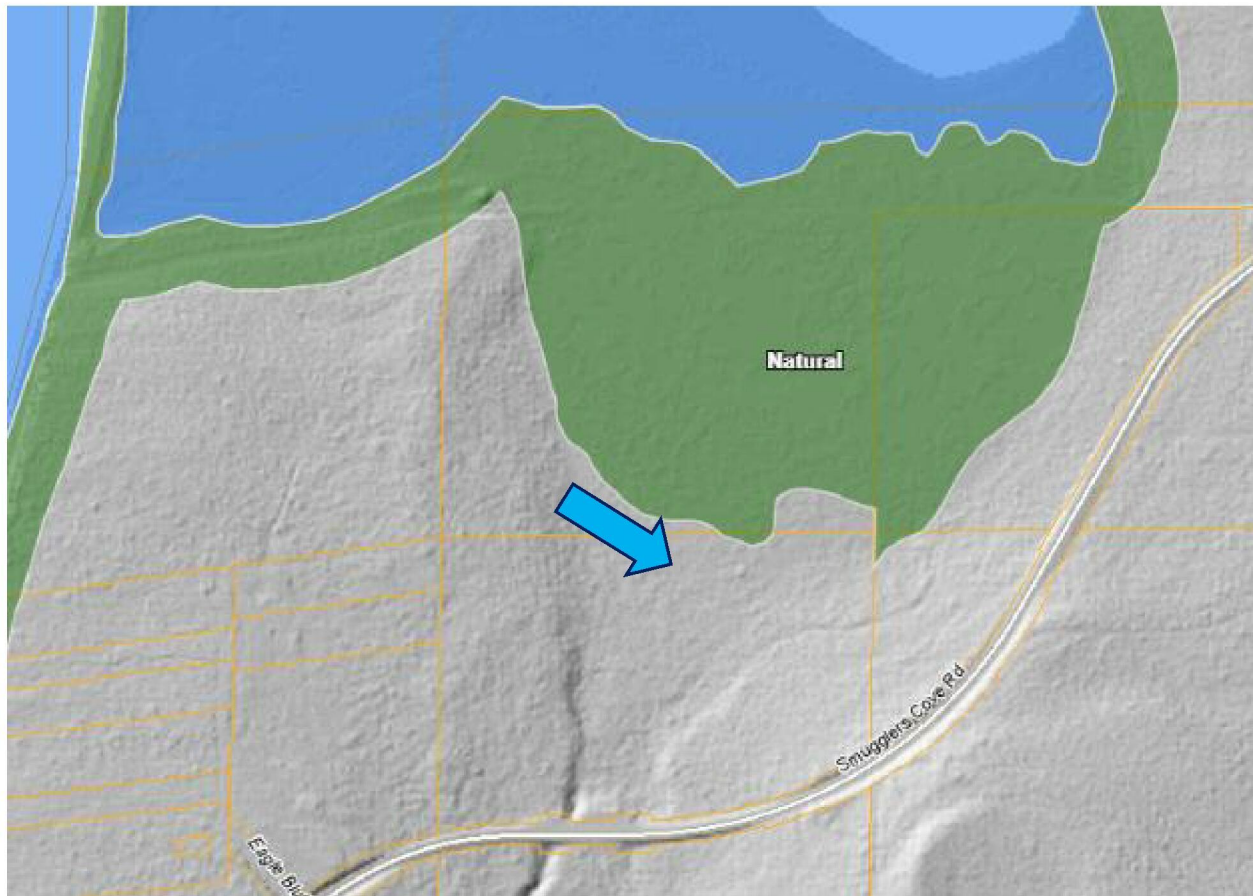


Figure 11. Site 16, hillshade layer and existing mapped shoreline jurisdiction (photo source: Interactive Island County Shoreline Designations Map).

Site 17

Based on a review of aerial photography, the feature is a jurisdictional shoreline waterbody. No site inspection was conducted due to the location on private property and conclusive evidence visible in aerial imagery. Evidence of logs, drift deposits, and likely salt marsh are evident and depicted in aerial imagery. We recommend adjusting shoreline jurisdiction map to update the feature as part of the jurisdictional shoreline waterbody and have shoreline jurisdiction extend 200 feet inland.



Figure 12. Site 17 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 18

The wetland is determined to be a shoreline associated wetland. A site visit was conducted to verify this determination. The wetland is separated by a row of houses from the Puget Sound, a distance greater than 200 feet. Two tide gates are inventoried on private property and could not be visually inspected. Salinity measurements ranged from 0.4-0.6 ppt, slightly above the threshold for marine OHWM determinations. Vegetation in the wetland is salt tolerant and includes *Distichlis spicata*, *Bolboschoenus maritimus*, *Schoenoplectus* sp., *Triglochin maritima*, and *Juncus balticus*. Based on a high saltwater content and the presence of salt tolerant vegetation, a hydrologic connection to the Puget Sound is evident; although, whether this is through a tide gate or groundwater is uncertain. No change is recommended for the jurisdictional status of the wetland until more in-depth investigation can be conducted, if necessary. However, we recommend a slight change in mapping as a portion of the Puget Sound is incorrectly mapped and the shoreline environmental designation should be updated to Aquatic.



Figure 13. Site 18 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line; tide gates inventoried at red dots.

Site 19

This site was assessed due to uncertainty regarding potential mapping error, no site inspection was required or conducted. There is discrepancy in the boundary of the joint SED layers here, as one large property does not appear to follow the same parcel boundary separation between designations. No change is recommended for jurisdictional status but further consideration of a change in SED mapping should be considered by the County.



Figure 14. Site 19 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 20

It is undetermined whether wetlands at this site, upland of the existing private gravel road, are jurisdictional shoreline waterbodies or associated wetlands based on the limited information that could be gathered from public property. A site visit was conducted to verify this determination, however, the wetlands are located on private property, and therefore, site investigation was limited. The wetlands are separated from the Puget Sound OHWM by a private gravel road. No salinity measurements were collected due to access restrictions. Vegetation in the wetland is dominated by plants that can grow in both freshwater and brackish conditions, including primarily *Typha latifolia* and *Schoenoplectus* sp. Other non-dominant vegetation include *Salix lucida*, *Veronica americanus*, *Athyrium filix-femina*, *Potentilla* sp., *Phalaris arundinacea*, *Juncus* sp., and *Lotus* sp. None of the plants observed in this location are in the 'very sensitive' category of salt tolerance (Hutchinson 1991), and could likely tolerate a low-salinity brackish water. The plant community is marginal in terms of salt tolerance and in these circumstances, jurisdiction determinations is best supported with additional indicators. Salinity testing is recommended to determine if the 0.5 ppt threshold is exceeded. No change to the shoreline jurisdiction mapping is proposed until further field investigation is performed.



Figure 15. Site 20 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 21

This site was assessed due to uncertainty regarding the extent of associated wetlands connecting Lone Lake and Puget Sound. Anecdotally, the Puget Sound OHWM historically extended to SR-525 before it was diked. A representative at the Department of Ecology familiar with the site has indicated continuous wetlands extend from Lone Lake to the Puget Sound (pers. comm. David Pater). No site inspection was conducted due to the defined scope, location on private property, and high level of effort required. No changes are proposed to the shoreline jurisdiction map since additional field verification would be required.



Figure 16. Site 21 (photo source: Google Earth).

Site 22

This site was assessed to determine the shoreline jurisdiction status and extent of associated wetlands. No site inspection was conducted due to the location on private property and high level of effort required. Based on a review of aerial photography, this site appears to be accurately mapped as shoreline associated wetlands. It is likely freshwater, although it is possible that a portion is saltwater/estuarine near the tide gate. A tide gate on private property separates the wetland from the Puget Sound and is listed as good condition. No changes are proposed to the shoreline jurisdiction map.



Figure 17. Site 22 (photo source: Washington State Coastal Atlas). Approximate tide gate location at red dot.

Site 23

Wetlands located landward of an existing tide gate are likely jurisdictional shoreline waterbodies; additional field verification is required. A site visit was conducted to verify this determination, however, it is located on private property and visibility limited from the nearest public tidelands. The wetlands in questions are separated from the Puget Sound by a dike that has a tide gate near the northern terminus. A ditched channel has been constructed behind the dike that is primarily unvegetated but appears to contain salt tolerant plants in the fringe, including *Distichlis spicata*. The site is entirely private property, so no salinity measurements or further inspection was conducted. Channels within wetlands have morphology typical of tidally influenced systems, indicating probably ongoing tidal influence. Wetlands in this area are at minimum associated wetlands, but likely part of the jurisdictional shoreline waterbody. This determination will depend on functionality of the tide gate and direct hydrologic connectivity. Further investigation should confirm the extent of salt tolerant vegetation and tide gate functionality so that the jurisdictional boundary can be determined. No changes are proposed to the shoreline jurisdiction map until site conditions can be confirmed.



Figure 18. Site 23 (photo source: Washington State Coastal Atlas). Inventoried tide gate at red dot.

Site 24

Based on a review of aerial photography, the wetland areas in question appear to be shoreline associated wetlands as they are within 200 feet of a jurisdictional shoreline waterbody. No site inspection was conducted due to the location on private property and visible connection identified on aerial photography. A tide gate on private property separates the waterbody from the Puget Sound. We recommend adjusting the shoreline jurisdiction map to include wetlands as shoreline associated.



Site 24 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line; tide gate location at red dot.

Site 25-26

Drift logs within this site, visible in aerial imagery, indicate that it is tidally influenced at a minimum during extreme high waters. A site visit was conducted to verify the jurisdictional status, however, the site was not visible from accessible public lands. Considering the extent of logs and vegetation class, the property may contain wetlands which have the potential be shoreline jurisdictional waters. Further investigation would need to be completed to determine jurisdictional status, which may primarily be based on the extent of salt tolerance vegetation. No changes to the shoreline jurisdiction map are recommended until conditions can be field verified.



Figure 19. Site 25-26 (photo source: Washington State Coastal Atlas).

Site 27

Agricultural fields in this location, upland of Race Rd., appear generally non-wetland, although corridors of ditches and/or streams that may have wetland components flow downhill and eventually discharge into the Puget Sound. A site visit was conducted to verify this determination. Observed vegetation both uphill and downhill of the culvert crossing Race Rd is generally not salt tolerant and include *Crataegus Douglassii*, *Crataegus monogyna*, *Rosa nootkana*, *Geum macrophyllum*, and *Jacobaea vulgaris*. Based on estimated distances on aerial imagery any wetlands in this location would not be jurisdictional or associated. We recommend adjusting shoreline jurisdiction map to reduce area of shoreline associated wetlands. Any wetland further than 200 feet from the approximate OHWM as depicted would be removed from shoreline jurisdiction. As wetlands appear to have been drained into ditches, no wetland features south of Race Rd would remain in shoreline jurisdiction in the study area.



Figure 20. Site 27 (photo source: Google Earth). Approximate OHWM represented by yellow line.

Site 28

A stream is mapped that flows through the property and outlets into the Puget Sound through a forested ravine near the north property line. No site inspection was conducted due to the location on private property and low number of other properties affected by the determination. Wetlands do not appear to be present based on a review of aerial imagery, although a delineation would be required to confirm. We recommend adjusting the shoreline jurisdiction map boundary to remove the mapped extensive associated wetlands on the site until field verified.



Figure 21. Site 28 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 29 and 30

The extent of drift logs and proximity to the Puget Sound indicate that the lagoon is likely saltwater and tidally influenced, and therefore a jurisdictional shoreline waterbody. No site inspection was conducted due to the location on private property. We recommend shoreline mapping be updated to depict the feature as a jurisdictional shoreline waterbody and extend shoreline jurisdiction 200 feet inland.



Figure 22. Site 29 and 30 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 31 and 36

The coastal lagoon at this site is tidally influenced and is a jurisdictional shoreline waterbody. A site visit was conducted to verify this determination. Salinity within the lagoon was measured at 15.5 ppt, and vegetation is composed of salt tolerant species including *Salicornia pacifica* and *Distichlis spicata*. Salt burn was observed on overhanging vegetation. High salinity provides evidence that tide gate is not properly functioning. The tide gate is located south of the lagoon where sediment deposition and tidal channels create a unique mark in the intertidal system characteristic of tidally influenced features. We recommend updating the shoreline jurisdiction map to indicate the lagoon as a jurisdictional shoreline waterbody and extend shoreline jurisdiction 200 feet inland.



Figure 23. Site 31 and 36 (photo source: Washington State Coastal Atlas). Tide gate south of photo extent. Approximate OHWM represented by yellow line.

Site 32

Evidence of tidal influence including presence of wrack and tidal channels indicate that the area in question is below OHWM and is a jurisdictional shoreline waterbody. No site visit was conducted due to private property access limitations. We recommend shoreline mapping be adjusted to indicate the feature as a jurisdictional shoreline waterbody and extend shoreline jurisdiction 200 feet inland.



Figure 24. Site 32 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 33

Wetlands at this site are shoreline associated. A site investigation was conducted at this location due to uncertainty regarding the shoreline jurisdictional status and extent of associated wetlands. The site is separated by a dike from the Puget Sound OHWM with no observed surface water connection. Behind the dike, salinity in a large ditch was measured at 10 ppt with salt tolerant vegetation including *Distichlis spicata* and *Bolboschoenus maritimus*. Several other ditches intersect and drain agricultural land. Observed agricultural fields contain vegetation not typically associated with salt water and are significantly higher in elevation than the ditches. The wetlands in question are on private property and could not be visually assessed from public lands. Additional investigation would be required to determine the extent of salt tolerant vegetation. As wetlands are already mapped as shoreline associated, no change is recommended. The extent of wetlands at this site likely vary considerable compared to mapped wetlands. However, additional field investigation or delineation would be required to confirm.

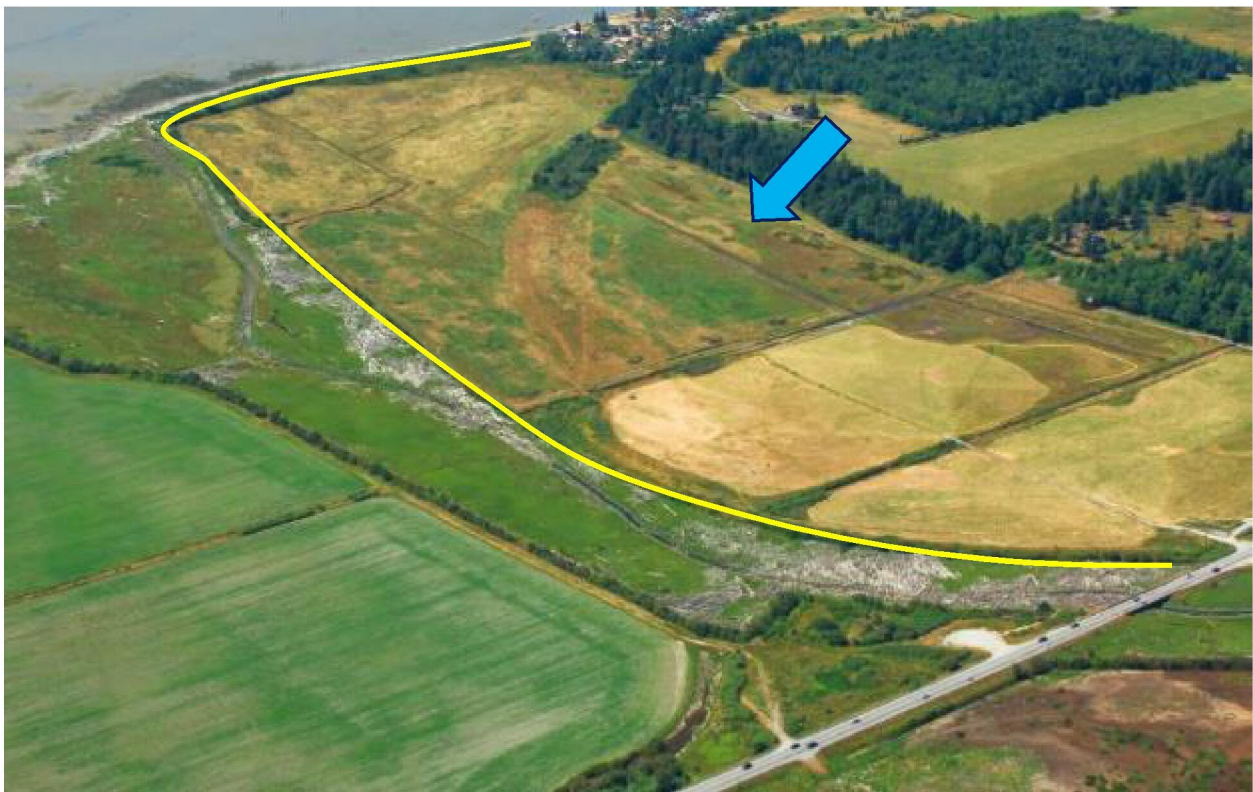


Figure 25. Site 33 (photo source: Washington State Coastal Atlas). Puget Sound OHWM by dike represented by yellow line.

Site 34

An assessment was conducted at this site through review of aerial imagery. No site visit was conducted due to private property access limitations. There was some uncertainty regarding shoreline jurisdictional status of a wetland. Based on the presence of logs seen on aerial photography and proximity to the Puget Sound, the waterbody is likely shoreline jurisdictional. We recommend shoreline mapping be updated to depict the feature as a jurisdictional shoreline waterbody and extend jurisdiction 200 feet inland.



Figure 26. Site 34 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 35

An assessment was conducted at this site through review of aerial imagery. No site visit was conducted due to private property access limitations. There was some uncertainty regarding shoreline jurisdictional status of a wetland. Based on the presence of logs and potential saltmarsh on aerial photography and proximity to the Puget Sound, the waterbody is likely a jurisdictional shoreline waterbody. We recommend shoreline mapping be updated to depict the feature as a jurisdictional shoreline waterbody and extend jurisdiction 200 feet inland.



Figure 27. Site 35 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

Site 37

Wetlands at this site are within shoreline jurisdiction as associated wetlands due to proximity with the marine OHWM. A site investigation was conducted at this location due to uncertainty regarding the shoreline jurisdictional status. The site is separated by a dike from the Puget Sound OHWM with no observed surface water connection. The dike and subject properties are located on private property so a salinity measurement was not recorded. A large ditch is located behind the dike that numerous smaller ditches drain to. Based on the proximity to Puget Sound OHWM, it is probable that this large ditch and associated waters have a high salt content, above 0.5 ppt. Vegetation identification could not reliably be determined from public lands. Until the extent of salt water influence can be field verified, we do not recommend any changes to the shoreline jurisdiction map, which currently depicts them as shoreline associated wetlands.



Figure 28. Site 37 (photo source: Washington State Coastal Atlas). Puget Sound OHWM at dike represented by yellow line.

Site 38

An assessment was conducted at this site through review of aerial imagery. No site visit was conducted due to private property access limitations. There was some uncertainty regarding whether upland wetlands are associated with the shoreline. It appears that wetlands may continue further inland than depicted in Island County shoreline jurisdiction mapping; however, a site inspection would be needed to confirm. Without further investigation onto private property, we recommend keeping as currently mapped.



Figure 29. Site 38 (photo source: Washington State Coastal Atlas). Approximate OHWM represented by yellow line.

References

- Anderson, P.S. et al. 2016. Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. (Publication #16-06-029). Olympia, WA: Shorelands and Environmental Assistance Program, Washington Department of Ecology.
- Hutchinson, I., 1991. Salinity Tolerance of Plants of Estuarine Wetlands and Associated Uplands. Washington State Shorelands and Coastal Zone Management Program: Wetlands Section.
- Washington State Department of Ecology (Ecology), 2017. SMP Handbook: Chapter 5 Shoreline Jurisdiction. (Publication #11-06-010). Olympia, WA: Shorelands and Environmental Assistance Program, Washington Department of Ecology.